

**CALIFORNIA COASTAL COMMISSION**

NORTH COAST DISTRICT OFFICE

710 E STREET • SUITE 200

EUREKA, CA 95501-1865

VOICE (707) 445-7833

FACSIMILE (707) 445-7877

MAILING ADDRESS:

P. O. BOX 4908

EUREKA, CA 95502-4908



# Th13b

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Staff:	Robert S. Merrill
Staff Report:	November 26, 2003
Hearing Date:	December 11, 2003
Commission Action:	

**REVISED STAFF REPORT: REGULAR CALENDAR**

APPLICATION NO.:	<b>1-03-026</b>
APPLICANTS:	Harritta Gaussoin & Richard Radcliffe
PROJECT LOCATION:	352 Roundhouse Creek Road, in the Big Lagoon area, Humboldt County (APN 517-251-10)
PROJECT DESCRIPTION:	Construct a 1,420 square foot, 16-foot-high single-family residence with a 440-square-foot detached garage, septic system, propane storage tank, driveway, and landscaping.
GENERAL PLAN DESIGNATION:	Residential Estates (RE)
ZONING DESIGNATION:	Residential Single Family with no further subdivision and design review requirements (RS-XD)

LOCAL APPROVALS RECEIVED: Humboldt County Special Permit for Design Review.

OTHER APPROVALS REQUIRED: None

SUBSTANTIVE FILE DOCUMENTS: (1) Humboldt County Local Coastal Program;  
(2) The Geotechnical report entitled, "Recommended Setback for the Rohner Bluff-top Home Based on an Erosion –Rate Analysis and Factor-of Safety Considerations, 294 Roundhouse Creek Road, Big Lagoon Park Subdivision, Humboldt County, California (APNs 517-251-14 and 517-251-15)," dated October 6, 2003, prepared by Busch Geotechnical Consultants.

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**SUMMARY OF STAFF RECOMMENDATION:**

Staff recommends approval with conditions of the coastal development permit application for the proposed project on the basis that, as conditioned by the Commission, the project is consistent with the Coastal Act.

The proposed project involves the construction of a 1,420-square-foot, 16-foot-high single-family residence with a 440-square-foot detached garage, septic system, propane storage tank, driveway, and landscaping. The project site is located at 352 Roundhouse Creek Road, in the Big Lagoon Park Subdivision, approximately 6.5 miles north of Trinidad in Humboldt County.

The project site is located near a shoreline that has experienced extraordinary bluff retreat. Anecdotal information indicates that other lots within the subdivision experienced more than 60 feet of bluff retreat during the winter of 1997 and 1998. The long-term bluff retreat rate is estimated at 1 foot per year. The applicants commissioned a geotechnical evaluation of the site that included an analysis of long term bluff retreat rate and a quantitative slope stability analysis. The geotechnical investigation recommended a setback for the proposed relocated residence of 170 feet to ensure its safety over the next 75 years. The Commission Staff Geologist has reviewed the geotechnical investigation and opines that geotechnical evaluation was adequate and that the recommended setback would assure geologic stability over the next 75 years. As proposed by the applicant, the development conforms to the recommended 170-foot setback. To ensure that (1) the development is actually setback sufficient distances as proposed to ensure its safety from bluff erosion and cliff retreat during the typical economic lifespan of a house and septic leach field, and (2) the setback would be of sufficient distance to eliminate the need for shoreline protection devices to protect the

structure in the future consistent with Section 30253 of the Coastal Act, staff recommends that the Commission attach Special Condition No. 3. This recommended special condition requires that all final design and construction plans, including site, foundation, grading, and drainage plans, shall be consistent with the recommendations contained in the geotechnical report, including recommendations concerning setbacks, site preparation, fill placement and compaction, foundation designs, and drainage.

Staff recommends that the Commission attach additional special conditions, including conditions to 1) require that all terms and conditions of the permit are recorded as deed restrictions; 2) prohibit future bluff or shoreline protective devices; 3) require the applicants to assume the risk of geologic hazard and waive liability for the Commission; and 4) require an erosion and runoff control plan and the removal of debris to control sedimentation and protect water quality.

Staff recommends that the Commission find the project, as conditioned, is consistent with the Chapter 3 policies of the Coastal Act.

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#### **STAFF NOTES:**

##### 1. Standard of Review

The proposed project is located on the west side of Roundhouse Creek Road, in the Big Lagoon Park Subdivision south of Big Lagoon in Humboldt County. Humboldt County has a certified LCP. However, the project is located in an area of deferred certification (ADC). Therefore, the standard of review that the Commission must apply to the project is the Chapter 3 policies of the Coastal Act.

##### 2. Commission Action Necessary

The Commission must act on the application at the December 11, 2003 to meet the requirements of the Permit Streamlining Act

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#### **I. MOTION, STAFF RECOMMENDATION AND RESOLUTION:**

The staff recommends that the Commission adopt the following resolution:

##### **Motion:**

I move that the Commission approve Coastal Development Permit No. 1-03-026 pursuant to the staff recommendation.

**Staff Recommendation of Approval:**

Staff recommends a **YES** vote. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

**Resolution to Approve the Permit:**

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

**II. STANDARD CONDITIONS:      See Attachment A.**

**III. SPECIAL CONDITIONS:**

**1. Construction Responsibilities and Debris Removal**

The permittee shall comply with the following construction-related requirements:

- A. No construction materials, debris, or waste shall be placed or stored where it may be subject to entering coastal waters; and
- B. All construction debris shall be removed and disposed of in an upland location outside of the coastal zone or at an approved disposal facility.

**2. Erosion and Runoff Control Plan**

- A. **PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-03-026**, the applicant shall submit an Erosion and Runoff Control Plan for review and approval of the Executive Director. The Erosion and Runoff Control Plan shall incorporate design elements and/or Best Management Practices (BMPs)

which will serve to minimize the volume and velocity of stormwater runoff leaving the developed site, and to capture sediment and other pollutants contained in stormwater runoff from the development, by facilitating on-site infiltration and trapping of sediment generated from construction. The final drainage and runoff control plans shall at a minimum include the following provisions:

1. A physical barrier consisting of bales of straw placed end to end shall be installed between any construction and bluff edges that are downslope of the construction. The bales shall be composed of weed-free rice straw, and shall be maintained in place throughout the construction period.
  2. Vegetation at the site shall be maintained to the maximum extent possible and any disturbed areas shall be replanted or seeded with native vegetation immediately following project completion.
  3. All on-site debris stockpiles shall be covered and contained at all times.
  4. Provide that runoff from the roof, driveway and other impervious surfaces from the completed development shall be collected and directed into pervious areas on the site (landscaped areas) for infiltration to the maximum extent practicable in a non-erosive manner, prior to being conveyed off-site. Where gutters and downspouts are used, velocity reducers shall be incorporated, to prevent scour and erosion at the outlet.
- B. The permittee shall undertake development in accordance with the approved Erosion and Runoff Control plans. Any proposed changes to the approved plans shall be reported to the Executive Director. No changes to the approved plans shall occur without a Coastal Commission approved amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

3. **Conformance of the Design and Construction Plans to the Geotechnical Investigation Report**

- A. All final design and construction plans, including site, foundation, grading, and drainage plans, shall be consistent with the recommendations contained in: (1) the geotechnical report entitled, "R-2 Soils Report, Proposed Residence, Roundhouse Creek Road, Trinidad, California, APN 517-251-10," dated June, 2003, prepared by LACO Associates; and (2) the geotechnical report entitled, "Slope Stability Analysis for Setback From Bluff Face, APN 517-251-10, Roundhouse Creek Road, Trinidad, California, dated November 7, 2003, prepared by LACO Associates. **PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit, for the Executive Director's review and approval, evidence that a licensed professional (Certified Engineering Geologist

- or Geotechnical Engineer) has reviewed and approved all final design, construction, site, foundation, grading, and drainage plans and has certified that each of those plans is consistent with all of the recommendations specified in the above-referenced geotechnical reports approved by the California Coastal Commission for the project site.
- B. The permittee shall undertake development in accordance with the approved final plans. Any proposed changes to the approved final plans shall be reported to the Executive Director. No changes to the approved final plans shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

**4. Deed Restriction**

**PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT**, the applicant shall submit to the Executive Director for review and approval documentation demonstrating that the applicant has executed and recorded against the parcel(s) governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the Special Conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the Property. The deed restriction shall include a legal description of the entire parcel or parcels governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the subject property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the subject property.

**5. No Future Bluff or Shoreline Protective Device**

- A. By acceptance of this permit, the applicants agree, on behalf of themselves and all successors and assigns, that no bluff or shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to Coastal Development Permit No. 1-03-026, including, but not limited to, the residence with the attached garage, foundations, septic system, utilities, driveway, or appurtenant residential development in the event that the development is threatened with damage or destruction from waves, erosion, storm conditions, bluff retreat, landslides, ground subsidence or other natural hazards in the future. By acceptance of this permit, the applicants hereby waive, on behalf of

- themselves and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235.
- B. By acceptance of this Permit, the applicants further agree, on behalf of themselves and all successors and assigns, that the landowner(s) shall remove the development authorized by this permit, including the relocated residence, new foundations, new driveway, and other appurtenant residential development, if any government agency has ordered that the structures are not to be occupied due to any of the hazards identified above. In the event that portions of the development fall to the beach before they are removed, the landowner shall remove all recoverable debris associated with the development from the beach and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.
- C. In the event the edge of the bluff recedes to within 10 feet of the principal residence but no government agency has ordered that the structures not be occupied, a geotechnical investigation shall be prepared by a licensed geologist or civil engineer with coastal experience retained by the applicant, that addresses whether any portions of the residence are threatened by wave, erosion, storm conditions, or other natural hazards. The report shall identify all those immediate or potential future measures that could stabilize the principal residence without shore or bluff protection, including but not limited to removal or relocation of portions of the residence. The report shall be submitted to the Executive Director and the appropriate local government official. If the geotechnical report concludes that the residence or any portion of the residence is unsafe for occupancy, the permittee shall, within 90 days of submitting the report, apply for a coastal development permit amendment to remedy the hazard which shall include removal of the threatened portion of the structure.

**6. Assumption of Risk, Waiver of Liability and Indemnity**

By acceptance of this permit, the applicants acknowledge and agree: (i) that the site may be subject to hazards from landslide, bluff retreat, erosion, subsidence, and earth movement; (ii) to assume the risks to the applicants and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

**7. Future Development Restriction**

This permit is only for the development described in coastal development permit No. 1-03-026. Pursuant to Title 14 California Code of Regulations section 13250(b)(6), the exemptions otherwise provided in Public Resources Code section 30610(a) shall not apply to the development governed by the coastal development permit No. 1-03-026. Accordingly, any future improvements to this structure authorized by this permit shall require an amendment to permit no. 1-03-026 from the Commission or shall require an additional coastal permit from the Commission or from the applicable certified local government. In addition thereto, an amendment to permit no. 1-03-026 from the Commission or an additional coastal permit from the Commission or from the applicable certified local government shall be required for any repair or maintenance identified as requiring a permit in Public Resources Code Section 30610(d) and Title 14, California Code of Regulations Sections 13252(a)-(b).

#### **IV. FINDINGS AND DECLARATIONS**

The Commission hereby finds and declares:

##### **1. Site & Project Description**

The proposed project involves the construction of a 1,420-square-foot, 16-foot-high single-family residence with a 440-square-foot detached garage, septic system, propane storage tank, driveway, and landscaping. The residence would be served by the local community water system. The project site is located at 352 Roundhouse Creek Road, in the Big Lagoon Park Subdivision, approximately 6.5 miles north of Trinidad in Humboldt County (see Exhibits 1-6).

The subject property is a vacant, 15,000-square-foot lot located within a residential subdivision of approximately 1/3-acre lots partially developed with modest homes with built mostly since the early 1970s. The neighborhood is served by a community water system and individual septic systems.

The subject parcel is directly adjacent to Roundhouse Creek Road and separated from the bluff edge by an intervening parcel that is developed with a single-family residence. Additional houses exist on the adjoining properties to the north and south. The property is not within any County designated scenic or view area and no ocean views are afforded through the property. The property slopes gently to the west. The nearby bluff is approximately 126 feet high in this location, and is very steep. The subject property contains no known environmentally sensitive habitat area.

The subject parcel is vegetated with a large number of trees and shrubs, including Monterey pines, Sitka Spruce, blackberry bushes, and various native plants. The applicants propose to remove a total of 10 trees to make room for the proposed



development and to remove a safety hazard associated with trees that are dying because of vandalism (See Exhibit 6).

The proposed house and detached garage structures would be sited twenty feet back from Roundhouse Creek Road, consistent with the required front yard setback required by Humboldt County (see Exhibit 4). The propane storage tank would be located west of the garage and south of the proposed house. The septic system would occupy the western half of the parcel, with the primary leach field located in the easternmost approximately 50 feet of the parcel and the septic tank and reserve leach field area occupying the area between the primary leach field and the house.

Although Humboldt County has a certified local coastal program, the project site is located within the Big Lagoon Area of Deferred Certification. The area was not certified in part because of issues concerning protecting future development from the extraordinary bluff retreat that occurs along this section of the Humboldt County coastline.

## **2. Locating and Planning New Development**

Section 30250(a) of the Coastal Act states that new development shall be located within or near existing developed areas able to accommodate it or in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. The intent of this policy is to channel development toward more urbanized areas where services are provided and potential impacts to resources are minimized.

The proposed development is located in a rural area where one single-family home per parcel is a principally permitted use. The site is served by a community water system. The Humboldt County Health Department has determined that suitable areas exist on the property to accommodate a septic system. As discussed in the findings below, the proposed development has been conditioned to ensure the protection of the relocated residence from geologic hazards and to avoid water quality impacts from runoff from the site.

Therefore, the Commission finds that the proposed development is consistent with Coastal Act Section 30250(a) to the extent that it is located in a developed area, it has adequate water and septic capability to accommodate it, and it will not cause significant adverse effects, either individually or cumulatively, to coastal resources.

## **3. Geologic Hazards**

Section 30253 states in applicable part:

*New development shall:*

- (1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
- (2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...*

The subject property is located on a bluff top situated approximately 126 feet above the ocean. The subject parcel is separated from the actual bluff edge by an intervening approximately 130-foot-long parcel. The Big Lagoon Subdivision was built on an uplifted marine terrace that has been subject to extraordinary rates of bluff retreat in the past. According to a geotechnical analysis prepared by Busch Geotechnical Consultants (BUSCH) for a proposed development located two parcels to the north of the applicants property that is the subject of Coastal Development Permit Application No. 1-03-028 (Rohner), the bluff in the vicinity of the project site is approximately 126 feet in height with a near vertical to slightly overhanging top. According to BUSCH, the Franciscan Complex bedrock which is exposed in the headlands of Patrick's Point State park and elsewhere along the coast, does not outcrop at the base of the bluff in the subdivision. In addition, the beach is unprotected by offshore rocks or a nearby headland. As a result, whenever winter storm waves strip the sand from the beach, the base of the bluffs with its erodible marine terraces begin to erode.

Although the subject parcel is separated from the bluff edge by an intervening parcel, the intervening parcel is subject to bluff retreat that will likely extend back through the intervening parcel to the applicants' parcel at some point in the future. No significant shoreline protective work has been constructed or reasonably can be expected to be constructed along the bluff because of the engineering challenges posed by the geologic conditions of the bluff and the great cost that would be associated with building such a protective work. Thus, bluff retreat poses a significant hazard to development of the subject parcel despite the presence of the intervening parcel.

In previous actions on Coastal Development permits, the Commission has interpreted Section 30253 of the Coastal Act to require that coastal development be sited a sufficient distance landward of coastal bluffs that it will neither be endangered by erosion nor lead to the construction of protective coastal armoring during the assumed economic life of the development. The Commission has generally assumed the economic life of a new house to be 75 to 100 years. A setback adequate to protect development over the economic life of a development must account both for the expected bluff retreat during that time period and the existing slope stability. Long-term bluff retreat is measured by examining historic data including vertical aerial photographs and any surveys conducted that identified the bluff edge. Slope stability is a measure of the resistance of a slope to land sliding, and is assessed by a quantitative slope stability analysis. In such an analysis, the forces resisting a potential landslide are first determined. These are essentially the strength of the rocks or soils making up the bluff. Next, the forces driving a potential landslide are determined. These forces are the weight of the rocks as projected along a

potential slide surface. The resisting forces are divided by the driving forces to determine the “factor of safety.” The process involves determining a setback from the bluff edge where a factor of safety of 1.5 is achieved. The quantitative slope stability analysis needs to be prepared by licensed geotechnical professional familiar with the process.

The applicant commissioned LACO Associates to perform a geotechnical investigation of the site. The geotechnical investigation of the site is documented in two separate reports including: (1) the geotechnical report entitled, “R-2 Soils Report, Proposed Residence, Roundhouse Creek Road, Trinidad, California, APN 517-251-10,” dated June, 2003; and (2) the geotechnical report entitled, “Slope Stability Analysis for Setback From Bluff Face, APN 517-251-10, Roundhouse Creek Road, Trinidad, California, dated November 7, 2003 (See Exhibit 7).

The LACO reports state that “the generally accepted erosion rate for the bluffs at Big Lagoon is 1 foot per year,” but no supporting evidence is provided. As noted above, a separate geotechnical has recently been performed for a proposed development two parcels away (BUSCH). In assessing the long-term bluff retreat rate at the site, the BUSCH investigation utilized 14 aerial photographs spanning 61 years. The report documents anecdotally short-term erosion events in the nearby area resulting in up to 60 feet of bluff retreat in a single winter season (1997-1998). The report indicates a long-term average erosion rate for the 61 year period is .74 feet per year, but recommends that the calculated rate be rounded up to 1 foot per year to account for higher erosion rates determined by other studies.

The LACO investigation includes a quantitative slope stability analysis. The slope stability analysis shows that the current bluff is stable, but with a relatively low factor of safety of 1.24. The factor of safety increases with distance from the bluff edge, and the point corresponding to a factor of safety of 1.5, the industry standard for new development, is achieved 95 feet from the bluff edge.

Based on the results of the analysis of long term bluff retreat and slope stability, LACO recommends a minimum setback line from the present bluff edge of 170 feet to protect the relocated house over its assumed 75-year lifespan. The 170-foot setback would extend from the bluff to a line approximately 35 feet from the western edge of the parcel. This setback consists of the 95-foot slope stability setback plus 75 additional feet to account for the 1-foot per year bluff retreat rate. LACO also recommends a number of additional measures to ensure the safety of the proposed development from geologic hazards including recommendations concerning site preparation, fill placement and compaction, foundation designs, and drainage.

Coastal Commission staff geologist Dr. Mark Johnsson has reviewed the LACO and BUSCH reports and conferred with the applicants’ geologists. Dr. Johnsson has opined in a memo to staff dated November 19, 2003 attached as Exhibit 8 that he believes the long-term erosion rate of 1.0 foot is an appropriate site-specific long-term erosion rate for the site.” With

regard to the quantitative slope stability analysis, Dr. Johnsson indicates that the shear strength and unit weight values adopted in this analysis are appropriate. In conclusion, Dr. Johnsson states that he concurs that the applicant's geologist's recommended setback of 170 feet would "assure the stability of the proposed development for an expected life of 75 years."

As proposed by the applicant, all of the proposed development except for the septic system would be set back at least 200 feet from the bluff edge, or 30 feet inland of the recommended geologic setback line. The septic system is designed such that the primary leach field is located seaward of the reserve leach field area. Portions of the primary leach field area are within the most inland portions of the recommended geologic setback line, although the reserve leach field area is inland of the geologic setback line. The fact that the primary leach field would be located within the setback line does not create unacceptable risks of geologic hazard, however, as the design life of a leach field system is on the order of 20 to 30 years, as opposed to the 75-year design life for the house itself. Reserve leach fields are usually designated at the time primary leach fields are designed because of the short design life of leach fields. Based on the projected rate of retreat of the bluff, the primary leach field would not be threatened until long after the primary leach field has surpassed its design life and the septic waste has been directed to the reserve leach field. Therefore, the proposed development as conditioned will be set back sufficient distances from the bluff edge to provide for the economic life span for all elements of the development consistent with Section 30253 of the Coastal Act.

To ensure that (1) the development is actually setback sufficient distances as proposed to ensure its safety from bluff erosion and cliff retreat during the typical economic lifespan of a house and septic leach field, and (2) the setback would be of sufficient distance to eliminate the need for shoreline protection devices to protect the structure in the future consistent with Section 30253 of the Coastal Act, the Commission attaches Special Condition No. 3. This special condition requires that all final design and construction plans, including site, foundation, grading, and drainage plans, shall be consistent with the recommendations contained in the LACO Geotechnical report, and reviewed and approved by the Executive Director. As conditioned, the house must be relocated to provide for the 170-foot bluff setback recommended by LACO. In addition, the condition will require the applicants to construct the development consistent with the additional recommendations of LACO to ensure the safety of the proposed development from geologic hazards including recommendations concerning site preparation, fill placement and compaction, foundation designs, and drainage. The Commission finds that the proposed development as conditioned will be set back a sufficient distance from the bluff edge to provide for the economic design life of each element of the development and eliminate the need for shoreline protection devices to protect the development consistent with Section 30253 of the Coastal Act.

The Commission also attaches Special Condition No. 5, which prohibits the construction of shoreline protective devices on the parcel, requires that the landowner provide a geotechnical investigation and remove the house and its foundation if bluff retreat

reaches the point where the structure is threatened, and requires that the landowners accept sole responsibility for the removal of any structural debris resulting from landslides, slope failures, or erosion of the site. These requirements are consistent with Section 30253 of the Coastal Act, which states that new development shall minimize risk to life and property in areas of high geologic, flood, and fire hazard, assure structural integrity and stability, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas, nor in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. The Commission finds that the proposed development could not be approved as being consistent with Section 30253 of the Coastal Act if projected bluff retreat would affect the proposed development and necessitate construction of a seawall to protect it.

As conditioned, portions of the development would be as close as approximately 138 feet to a bluff that is gradually eroding. Thus, the proposed development would be located in an area of high geologic hazard. The proposed development can only be found consistent with the above-referenced LCP provisions if the risks to life and property from the geologic hazards are minimized and if a protective device will not be needed in the future. The applicant has submitted information from a registered engineering geologist which states that if the new residence is set back 170 feet from the bluff edge, it will be safe from erosion and will not require any devices to protect the proposed development during its useful economic life.

Although a comprehensive geotechnical evaluation is a necessary and useful tool that the Commission relies on to determine if proposed development is permissible at all on any given bluff top site, the Commission finds that a geotechnical evaluation alone is not a guarantee that a development will be safe from bluff retreat. It has been the experience of the Commission that in some instances, even when a thorough professional geotechnical analysis of a site has concluded that a proposed development will be safe from bluff retreat hazards, unexpected bluff retreat episodes that threaten development during the life of the structure sometimes still do occur. Examples of this situation include:

- The Kavich Home at 176 Roundhouse Creek Road in the Big Lagoon Area north of Trinidad (Humboldt County). In 1989, the Commission approved the construction of a new house on a vacant bluff top parcel (Permit 1-87-230). Based on the geotechnical report prepared for the project it was estimated that bluff retreat would jeopardize the approved structure in about 40 to 50 years. In 1999 the owners applied for a coastal development permit to move the approved house from the bluff top parcel to a landward parcel because the house was threatened by 40 to 60 feet of unexpected bluff retreat that occurred during a 1998 El Nino storm event. The Executive Director issued a waiver of coastal development permit (1-99-066-W) to authorize moving the house in September of 1999.
- The Denver/Canter home at 164/172 Neptune Avenue in Encinitas (San Diego County). In 1984, the Commission approved construction of a new house on a vacant bluff top lot (Permit 6-84-461) based on a positive geotechnical report. In 1993, the owners applied for a seawall to protect the home (Permit Application 6-93-135). The Commission

denied the request. In 1996 (Permit Application 6-96-138), and again in 1997 (Permit Application 6-97-90) the owners again applied for a seawall to protect the home. The Commission denied the requests. In 1998, the owners again requested a seawall (Permit Application 6-98-39) and submitted a geotechnical report that documented the extent of the threat to the home. The Commission approved the request on November 5, 1998.

- The Bennett home at 265 Pacific Avenue, Solana Beach (San Diego County). In 1995, the Commission approved a request to construct a substantial addition to an existing bluff top home (Permit 6-95-23). The minimum setback for the area is normally 40 feet. However, the applicants agreed to waive future rights to shore/bluff protection if they were allowed to construct 25 feet from bluff edge based on a favorable geotechnical report. The Commission approved the request on May 11, 1995. In 1998, a substantial bluff failure occurred, and an emergency permit was issued for a seawall. The follow-up regular permit (#6-99-56) was approved by Commission on May 12, 1999. On August 18, 1999, the Commission approved additional seawall and upper bluff work on this and several other properties (Permit #6-99-100).
- The Arnold project at 3820 Vista Blanca in San Clemente (Orange County). Coastal development permit (Permit # 5-88-177) for a bluff top project required protection from bluff top erosion, despite geotechnical information submitted with the permit application that suggested no such protection would be required if the project conformed to 25-foot bluff top setback. An emergency coastal development permit (Permit #5-93-254-G) was later issued to authorize bluff top protective works.

The Commission notes that the examples above are not intended to be absolute indicators of bluff erosion on the subject parcel, as coastal geology can vary significantly from location to location. However, these examples do illustrate that site-specific geotechnical evaluations cannot always accurately account for the spatial and temporal variability associated with coastal processes and therefore cannot always absolutely predict bluff erosion rates. Collectively, these examples have helped the Commission form its opinion on the vagaries of geotechnical evaluations with regard to predicting bluff erosion rates.

The LACO geotechnical investigation report states the following:

“The analyses and recommendations contained in this report are based on data obtained from surface and subsurface exploration at and near the site. The methods used indicate subsurface conditions only at specific locations where samples were obtained, only at the time they were obtained, and only to the depths penetrated. Samples can not always be relied on to accurately reflect stratigraphic variations that commonly exist between sampling locations, nor to they necessarily represent conditions at any other time.”

This language in the report itself is indicative of the underlying uncertainties of this and any geotechnical evaluation and supports the notion that no guarantees can be made regarding the safety of the proposed development with respect to bluff retreat.

Geologic hazards are episodic, and bluffs that may seem stable now may not be so in the future. Therefore, the Commission finds that the subject lot is an inherently hazardous piece of property, that the bluffs are clearly eroding, and that the proposed new development will be subject to geologic hazard and could potentially someday require a bluff or shoreline protective device, inconsistent with Section 30253 of the Coastal Act. The Commission finds that the proposed development could not be approved as being consistent with Section 30253 of the Coastal Act if projected bluff retreat would affect the proposed development and necessitate construction of a seawall to protect it.

Based upon the geologic report prepared by the applicants geologist and the evaluation of the project by the Commission's staff geologist, the Commission finds that the risks of geologic hazard are minimized if the residence is set back approximately 170 feet or more from the bluff edge as proposed. However, given that the risk cannot be eliminated and the geologic report cannot assure that shoreline protection will never be needed to protect the residence, the Commission finds that the proposed development is consistent with the Coastal Act only if it is conditioned to provide that shoreline protection will not be constructed. Thus, the Commission further finds that due to the inherently hazardous nature of this lot, the fact that no geology report can conclude with any degree of certainty that a geologic hazard does not exist, the fact that the approved development and its maintenance may cause future problems that were not anticipated, and because new development shall not engender the need for shoreline protective devices, it is necessary to attach Special Condition No. 5 prohibiting the construction of seawalls and Special Condition No. 6 requiring the waiver of liability.

In addition, as noted above, some risks of an unforeseen natural disaster, such as an unexpected landslide, massive slope failure, erosion, etc. could result in destruction or partial destruction of the house or other development approved by the Commission. In addition, the development itself and its maintenance may cause future problems that were not anticipated. When such an event takes place, public funds are often sought for the clean-up of structural debris that winds up on the beach or on an adjacent property. As a precaution, in case such an unexpected event occurs on the subject property, the Commission attaches Special Condition No. 5, which requires the landowner to accept sole responsibility for the removal of any structural debris resulting from landslides, slope failures, or erosion on the site, and agree to remove the house should the bluff retreat reach the point where a government agency has ordered that the structure not be occupied.

The Commission finds that Special Condition No. 4 is required to ensure that the proposed development is consistent with the Coastal Act. Special Condition No. 4 is required to provide notice of potential hazards of the property and help eliminate false expectations on the part of potential buyers of the property, lending institutions, and

insurance agencies that the property is safe for an indefinite period of time and for further development indefinitely into the future, or that a protective device could be constructed to protect the approved development. The condition requires that the applicant record and execute a deed restriction approved by the Executive Director against the property that imposes the special conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property.

Additionally, the Commission attaches Special Condition No. 6, which requires the landowner to assume the risks of extraordinary erosion and geologic hazards of the property and waive any claim of liability on the part of the Commission. Given that the applicants have chosen to implement the project despite these risks, the applicants must assume the risks. In this way, the applicants are notified that the Commission is not liable for damage as a result of approving the permit for development. The condition also requires the applicants to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards. In addition, the requirement of Special Condition No. 4 that a deed restriction be recorded will ensure that future owners of the property will be informed of the risks, the Commission's immunity from liability, and the indemnity afforded the Commission.

The Commission notes that Section 30610(a) of the Coastal Act exempts certain additions to existing single-family residential structures from coastal development permit requirements. Pursuant to this exemption, once a house has been constructed, certain additions and accessory buildings that the applicant might propose in the future are normally exempt from the need for a permit or permit amendment.

Section 30610(a) of the Coastal Act exempts certain additions to existing single family residential structures from coastal development permit requirements. Pursuant to this exemption, once the house has been constructed, certain additions and accessory buildings that the applicant might propose in the future could be exempt from the need for a permit or permit amendment. Depending on its nature, extent, and location, such an addition or accessory structure could contribute to geologic hazards at the site. For example, installing a landscape irrigation system on the property in a manner that leads to saturation of the bluff could increase the potential for landslides or catastrophic bluff failure. Another example would be installing a sizable accessory structure for additional parking, storage, or other uses normally associated with a single family home in a manner that does not provide for the recommended setback from the bluff edge.

To avoid such impacts to coastal resources from the development of otherwise exempt additions to existing homes, Section 30610(a) requires the Commission to specify by regulation those classes of development which involve a risk of adverse environmental effects and require that a permit be obtained for such improvements. Pursuant to Section 30610(a) of the Coastal Act, the Commission adopted Section 13250 of Title 14 of the California Code of regulations. Section 13250(b)(6) specifically authorizes the Commission to require a permit for additions to existing single-family residences that could involve a risk of adverse environmental effect by indicating in the development permit issued for the original structure that any future improvements would require a development permit. As



noted above, certain additions or improvements to the approved structure could involve a risk of creating geologic hazards at the site. Therefore, in accordance with provisions of Section 13250 (b)(6) of Title 14 of the California Code of Regulations, the Commission attaches Special Condition No. 7 which requires that all future development on the subject parcel that might otherwise be exempt from coastal permit requirements requires an amendment or coastal development permit. This condition will allow future development to be reviewed by the Commission to ensure that future improvements will not be sited or designed in a manner that would result in a geologic hazard. Special Condition No. 4 also requires recordation of a deed restriction to ensure that all future owners of the property are aware of the requirement to obtain a permit for development that would otherwise be exempt. This will reduce the potential for future landowners to make improvements to the residence without first obtaining a permit as required by this condition.

The Commission thus finds that the proposed development, as conditioned, is consistent Section 30253 of the Coastal Act, since the development as conditioned will not contribute significantly to the creation of any geologic hazards, will not have adverse impacts on the stability of the coastal bluff or on erosion, will not require the construction of shoreline protective works, and the Commission will be able to review any future additions to ensure that development will not be located where it might result in the creation of a geologic hazard. Only as conditioned is the proposed development consistent with Section 30253 of the Coastal Act.

#### **4. Water Quality**

Coastal Act Section 30230 states as follows:

*Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Coastal Act Section 30231 states as follows:

*The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging*

*waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Storm water runoff from new residential development can adversely affect the biological productivity of coastal waters by degrading water quality. Section 30230 and 30231 of the Coastal Act require the protection of the biological productivity and quality of coastal waters.

As discussed above, the subject parcel is located on a coastal terrace atop a steep coastal bluff. Runoff originating from the development site that is allowed to drain over the bluff edge would contain entrained sediment and other pollutants in the runoff that would contribute to degradation of the quality of marine waters.

Consistent with Coastal Act Sections 30230 and 30231, the Commission attaches Special Condition Nos. 1 and 2 to minimize erosion and sedimentation impacts from the proposed construction of the residence. Special Condition No. 1 requires that efforts be taken to ensure that in the handling and storage of construction materials, debris, and other wastes, no such materials be allowed to fall to the ocean. Special Condition No. 1 further requires that all debris and waste be removed for the project site and disposed of in an upland location outside of the coastal zone or at an approved disposal facility.

Special Condition No. 2 requires that the applicants submit for the review and approval of the Executive Director an Erosion and Runoff Control Plan that would provide that (1) straw bales be installed to contain runoff from construction areas, (2) on-site vegetation be maintained to the maximum extent possible during construction, (3) any disturbed areas be replanted or seeded with native vegetation following project completion, (4) all on-site stockpiles of construction debris be covered and contained to prevent polluted water runoff, and (5) runoff from the roof, driveway, and other impervious surfaces of the development be collected and directed into pervious areas on the site for infiltration and that velocity reducers be used on roof downspouts.

The Commission finds that as conditioned, the proposed development is consistent with Sections 30230 and 30231 of the Coastal Act because erosion and sedimentation will be controlled and minimized by (1) maintaining on-site vegetation to the maximum extent possible; (2) replanting or seeding any disturbed areas with native vegetation following project completion; (3) covering and containing debris stockpiles at all times; (4) using straw bales to control runoff during construction; and (5) directing runoff from the completed development in a manner that would provide for infiltration into the ground. Furthermore, the Commission finds that the proposed development as conditioned is consistent with the provisions of Coastal Act Sections 30230 and 30231 requiring that the biological productivity of coastal waters be sustained because storm water runoff from the proposed development would be directed away from the coastal bluff and would be controlled on site by infiltration into vegetated areas.

## **5. Public Access**

Coastal Act Sections 30210, 30211, and 30212 require the provision of maximum public access opportunities, with limited exceptions. Section 30210 states that maximum access and recreational opportunities shall be provided consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse. Section 30211 states that development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation. Section 30212 states that public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, adequate access exists nearby, or agriculture would be adversely affected.

In its application of these policies, the Commission is limited by the need to show that any denial of a permit application based on these sections, or any decision to grant a permit subject to special conditions requiring public access, is necessary to offset a project's adverse impact on existing or potential public access.

There is no evidence of trails on the site and no indication from the public that the site has been used for public access purposes in the past. Furthermore, the proposed development will not significantly increase the demand for public access to the shoreline and will otherwise have no significant impact on existing or potential public access. Therefore, the Commission finds that the proposed project, which does not include provision of public access, is consistent with the public access policies of the Coastal Act.

## **7. California Environmental Quality Act.**

Section 13096 of the Commission's administrative regulations requires Commission approval of coastal development permit applications to be supported by a finding showing the application, as modified by any conditions of approval, to be consistent with any applicable requirement of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on conformity with the Chapter 3 policies of the Coastal Act at this point as if set forth in full. These findings address and respond to all public comments regarding potential significant adverse environmental effects of the project that were received prior to preparation of the staff report. As discussed herein, in the findings addressing the consistency of the proposed project with the Chapter 3 policies of the Coastal Act, the proposed project has been conditioned to be found consistent with the Coastal Act. Mitigation measures, which will minimize all adverse environmental impacts have been required. As conditioned, there are no feasible alternatives or feasible mitigation measures available, beyond those required, which would substantially lessen any significant adverse

impact that the activity may have on the environment. Therefore, the Commission finds that the proposed project can be found to be consistent with the requirements of the Coastal Act to conform to CEQA.

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Exhibits

1. Regional Location Map
2. Vicinity Map
3. Parcel Map
4. Site Plan
5. Rendering of House
6. Landscape Plan
7. Excerpts of Geotechnical Reports
8. Staff Geologist's Memorandum